



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,337	10/30/2001	Man-yop Han	030681-301	2978

21839 7590 11/19/2003

BURNS DOANE SWECKER & MATHIS L L P  
POST OFFICE BOX 1404  
ALEXANDRIA, VA 22313-1404

EXAMINER

A, PHI DIEU TRAN

ART UNIT PAPER NUMBER

3637

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/831,337

Applicant(s)

HAN, MAN-YOP

Examiner

Phi D A

Art Unit

3637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

*Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Crowley (2859504).

Crowley (figure 2) shows a completely constructed pre-stressed girder comprising an upper and lower flanges (10 and the other flange, figure 6) interconnected by a body portion, the girder defining a lengthwise direction and including an open area (14) disposed intermediate opposite longitudinal ends of the girder, the open area being accessible in a lateral direction relative to the longitudinal direction, a plurality of first steel wires (15, 16) provided in the lengthwise direction of the girder and being pre-tensioned during the construction of the girder, a plurality of second steel wires (17) provided in the lengthwise direction of the girder, one end of each second steel wires disposed within the open area (14) and the other end of the second steel wires extending to any one of the longitudinal ends of the girder, the open area remaining empty after the completion of the girder so that the one end disposed within the open area of each second steel wire is accessible through the open area to produce in each second steel wire a tension which extends from the one end to the other end of the second steel wire after the completion of the girder.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crowley (2859504) in view of Ratliff Jr. (3158959).

Crowley shows all the claimed limitations except for the rest of the second steel wires extending from the open area to the other of the opposite longitudinal ends.

Ratliff Jr. shows a post-tensioned steel wire (27) having ends extends to both ends of a pre-stressed structure to enable stressing of a long structure from both ends with wires.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Crowley to show the rest of the second steel wires extending from the open area to the other of the opposite longitudinal ends because it would enable the second wires to stress a long structure from both ends as taught by Ratliff Jr.

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crowley (2859504) in view of Ratliff Jr. (3158959).

Crowley as modified shows all the claimed limitations except for the steel wires being connected by a coupling member disposed within the open area.

Ratliff Jr. further shows the steel wires being connected by a coupling member (28) within an open area.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Crowley's modified structure to show the steel wires being connected by a coupling member disposed within the open area as taught by Ratliff Jr. because it would enable the tensioning of the wires with a single coupling.

4. Claims 10, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crowley (2859504) in view of Ratliff Jr. (3158959).

Crowley (figure 2) shows a pre-stressed girder comprising an upper and lower flanges (10 and the other flange, figure 6) interconnected by a body portion, the girder defining a lengthwise direction and including an open area (14) disposed intermediate opposite longitudinal ends of the girder, the open area being accessible in a lateral direction relative to the longitudinal direction, a plurality of steel wires provided in the lengthwise direction of the girder, a first plurality of steel wires (15, 16) being pre-tensioned, a second plurality of steel wires (17) being substantially non-tensioned, at least one of the substantially non-tensioned wires extending to one of the longitudinal ends of the girder.

Crowley does not show disposed within the open area, the coupling member connecting to the second steel wires at one end and the other end of the second steel wires extending to ends of the girder.

Ratliff Jr. shows a coupling member (26) disposed within an open area, the coupling member connecting to the second steel wires at one end and the other end of the second steel wires extending to ends of the girder to enable tensioning of the wires.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Crowley to show disposed within the open area, the coupling member

Art Unit: 3637

connecting to the second steel wires at one end and the other end of the second steel wires extending to ends of the girder as taught by Ratliff Jr. because it would enable the tensioning of the wires with a single coupling to stress the girder from both ends.

Per claim 12, Crowley as modified shows the non-tensioned wires being disposed within one of the upper and lower flanges.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crowley (2859504) in view of Ratliff Jr. (3158959).

Crowley as modified shows all the claimed limitations except for the coupling member having holes formed therethrough through which respective ones of the substantially non-tensioned wires extend and secured by wedges.

Crowley as modified by Ratliff Jr. shows the wires being secured by threads.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Crowley's modified structure to show the coupling member having holes formed therethrough through which respective ones of the substantially non-tensioned wires extend and secured by wedges because the examiner takes Official Notice of the equivalence of threads and wedges in holes for their use in the stressed girder art and the selection of any of these known equivalents to secure the wires would be within the level of ordinary skill in the art.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crowley (2859504) in view of Ratliff Jr. (3158959) as applied to claim 10 above and further in view of Saucke (5175968).

Crowley as modified shows all the claimed limitations except for the coupling connecting the plurality of wires, which spaced laterally being a single coupling.

Art Unit: 3637

Saucke shows a coupling (28) connecting a plurality of wires, which spaced laterally in a single coupling.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Crowley's modified structure to show the coupling connecting the plurality of wires which spaced laterally being a single coupling because it would enable the connecting of laterally spaced wires together with a single coupling as taught by Saucke.

Crowley as modified thus shows 3 non-tensioned wires extending to one end of girder, 3 non-tensioned wires extending to the other end of the girder. Crowley as modified thus inherently shows two wires (the outer wires of 17) extending to one of the longitudinal ends and one wire (the middle of wire of 17) extending to the other longitudinal end and situated between the two substantially non-tensioned.

### *Response to Arguments*

7. Applicant's arguments with respect to claims 7-13 have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

Art Unit: 3637

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phi D A whose telephone number is 703-306-9136. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai can be reached on 703-308-2486. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Phi Dieu Tran A *PA*  
November 14, 2003

LANNA MAI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600

